

TRAIL & *Landscape*



A PUBLICATION CONCERNED WITH
NATURAL HISTORY AND CONSERVATION



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THE OTTAWA FIELD-NATURALISTS' CLUB

- Founded 1879 -

President: Mr. Hue MacKenzie, 228 Royal Ave., Ottawa
Secretary: Mr. A. W. Rathwell, Can. Wildlife Service

Objects of the Club: To foster an acquaintance with and love of nature and to encourage and publish original research in natural history.

Club Publications: THE CANADIAN FIELD-NATURALIST, official journal of the Club, devoted to the publishing of research in natural history.
TRAIL & LANDSCAPE, a non-technical publication of general interest to local naturalists.

Field Trips, Lectures and other natural history activities are arranged for local members.
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TRAIL & Landscape

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In an earlier issue of Trial & Landscape, our editor outlined some ways in which the public would benefit from the services of a staff naturalist in Gatineau Park. I believe that it is worthwhile to follow up this idea and to examine briefly some of the reasons why many parks have found it advantageous to have one or more naturalists on their staff.

Nearly always, parks are set aside because they contain some special natural history features, and Gatineau Park is no exception. These features are the main assets of the park and it is in the very best interest of the park to effectively communicate awareness of these assets to the public. A public that is informed of the values of a park will act to ensure that these values will be protected and preserved unimpaired for the enjoyment of future generations. There can be little doubt that one good way of promoting an appreciation of Park values is by introducing and interpreting the natural features of the park to the public in an intelligent and organized way.

A staff naturalist could plan and supervise an organized system of walking trails and trail signs, perhaps oversee the maintenance of ski trails, and conduct educational tours relating to the natural history of the Park. He could also be concerned with the writing of booklets and instructive pamphlets about the animals, plants and geology of the Park. I have had the good fortune this summer to visit several parks in the United States; each had one or more resident naturalists, and a Nature Centre. The Centre displays a wide range of published materials about the park. Many persons were using the centres and examining the materials available.

A staff Naturalist in Gatineau Park would be in a specially advantageous position. There is at Ottawa an exceptional number of able naturalists and professional persons in many specialist fields. Many of these individuals would be only too glad to cooperate with a Park Naturalist in helping to interpret the park to the public. I am convinced that a Park Naturalist would be one of the best solutions to the many problems of Gatineau Park today.

.....T. M.

A Note on the
MEETING IN SMITH'S FALLS

Hue MacKenzie

The Canada-Ontario Rideau Study Committee recently invited the Club to express its views on the effective utilization of the waterway for "recreational purposes". Council named Dr. W. Illman of Carleton University to coordinate our presentation. He commenced by asking members for their suggestions, in his letter of September 5th. A few members responded and Dr. Illman sent two letters to the Committee. The substance of these was that the effect of controlled water levels on the vegetation along the system must be understood. This involves consideration of erosion, shelter for wildlife and other like factors. Other comments related to (1) the provision of campsites, marinas, etc., (2) limitation of water vehicles in certain areas, (3) conservation of the Tay River and Christie Lake areas.

The Study Committee heard briefs from many groups at an open meeting in Smith's Falls on Saturday, September 30. They presented an almost complete range of viewpoints from conservation to exploitation in utilization of the Rideau System. I regret to report that, so far as I know, I was the only member of this club to attend that meeting.

If the limited response to Dr. Illman's letter and the poor turnout at Smith's Falls is an indication of the interest of members of this club in conservation matters, we certainly won't have much influence in countering the plans of developers whose activities endanger natural habitats. The Committee is desirous of having further information from interested groups and I strongly urge members with ideas, to write them down and send them to Dr. Illman immediately. If you don't act now, don't complain later.

PREDATOR CONTROL

N.S. Novakowski
Canadian Wildlife Service

The subject of predator control is one on which we exhibit a minimum of common sense and a maximum of emotion, pro and con. Basically, emotional involvement is historical and depends on whether our forefathers farmed the land and learned to cope with predators, or whether they became urban dwellers and gradually lost their ties with the land and wild animals. Today, many city dwellers have a rather romantic image of our wild animals. However, predators are generally ignored or tolerated by most farmers and are condemned by a new group, the outfitters and sport hunters who have evolved as a result of our affluence and increased leisure time. The trapper and meat hunter have faded into the background and their interests are not as vociferously expressed as those of outfitters and sport hunters or for that matter naturalists.

There is little doubt that pristine animal populations in Canada, although they may have fluctuated, probably were in some sort of balance with each other. There is also little doubt that when man entered the scene as an additional and very efficient predator this balance was upset. In areas of Canada where animal populations are high the additional exploitation had no appreciable effect on these populations. However, in those areas where productivity is low (particularly northern areas) the additional exploitation was the razor's edge in many cases. In other words, man by hunting excessively and changing the face of the land has been the cause of most population reductions.

This is the background from which any assessment of predator control must be made. The major animal predators, the wolf, coyote, and fox, have repeatedly been incriminated for reducing populations of game species and also for preying upon domestic stock and fowl. Of the predators, the wolf is the animal most incriminated, largely because its natural prey are

deer, elk, moose, and caribou. These are the major species which are hunted for food and for sport by man. As even the most aboriginal of our native population is rapidly accepting alternatives for wild meat, wild animals are not as important a food source as they once were. Thus some people have oversimplified the issue as the right of the predator to live versus the right of the sportsman to hunt. However, predator control is necessary not so that the hunter can harvest the crop but because we have in so many areas already altered not only the relationship between predator and prey but also the total environment so that the historic natural condition does not exist. The manipulation required to maintain a "balance" is called management.

It would not be appropriate to single out any one area where we have been overzealous in the extermination of wolves. Nevertheless at least two sub-species of the wolf, the prairie wolf, Canis lupus nubilis and the Vancouver Island wolf, Canis lupus crassodon are now endangered and the Newfoundland wolf, Canis lupus beothucus, is extinct. Those populations that are on the fringes of settlement are being hybridized by the more ubiquitous coyote, Canis latrans, or feral dog, Canis familiaris. No doubt much of the public resentment against wolves actually involves those groups nearer the settlements. In the more remote areas where the true wolf is found, it is seldom seen, seldom heard, but still persecuted.

The prognosis for the future is that the wolf will continue to exist in remote areas unless the colonization of these areas increases considerably. Additional agricultural land is extremely limited and little conflict is expected from that quarter; and development of remote areas for other reasons (mining, lumbering) does not have any impact on the neighbouring wild land or wild animal populations except around the perimeter of settlements or works. This leaves the sport hunter, who with his airplane or motorized toboggan can travel anywhere, and this writer would hesitate to estimate what his further impact on predators as well as on their prey will be. Undoubtedly it will be considerable. The coyote, which has adjusted to living in a populated area, will continue to thrive, as will the fox so long

as the price of its fur is low. In fact the time is now propitious to consider seriously the re-establishment of the northern kit fox, Vulpes velox hebes, (which is now extremely rare or absent) as an important part of our prairie fauna.

Every province and territory in Canada practices some form of predator control. The wisdom of this control is not always clear and appears to be motivated in some cases by principles other than sound game management. Be that as it may, game managers have some responsibility for providing sport for hunters. However, our main responsibility is to ensure the perpetuation of each distinct species or sub-species of all our fauna in Canada. Conservation groups have not been able to abolish predator control but they must press for sanity in control programs. Control should be selective, and limited to alleviation of a real and not a fancied problem. Wildlife habitat is being lost every day and irrational killing of predators will only serve to hasten the loss of our wildlife heritage.



WOLVES ARE STILL WITH US

Earlier this year, a Legislative Committee recommended that the provincial government initiate a program to virtually eliminate the wolf from Ontario. The Committee voted to recommend an increase in the wolf bounty, and to allow trappers to take wolves in Algonquin Park, a wildlife sanctuary. Outfitters and operators of hunting establishments, who claim that wolves are responsible for recent reductions in numbers of deer, are pressing for this action.

The Federation of Ontario Naturalists, by alerting members and other conservation groups, started the public reaction against the recommendations, and thereby an attempt to have wolves exterminated in Ontario was averted.

In the preceding article, Dr. Novakowski mentions people whose interest in predators, particularly wolves, is being "vociferously expressed". Yet another group may come to have an interest in wolves in future, suggests John A. Livingston in the excerpt which follows. We quote below from "Our Inheritance: the Earth or the Whirlwind", a look at our environment appearing in THE ONTARIO NATURALIST, June 1967, in which the author considers a century of change in Ontario's natural history and in human attitudes toward wildlife:

"The recent widely publicized controversy over the ecological role of the wolf, and over the relationship between deer, wolf, and man, has made a terribly important point about changes in human perspectives. In my own view, the outrage of the informed public toward some of the actions of the Legislative Committee on Natural Resources and Tourism must have been one of the healthiest developments of the century.....Premier Robarts has said that it prompted the greatest volume of mail on any single issue since he took office. That is change for the better. This couldn't have happened as recently as ten, or even five years ago. It says a lot, I suggest, for the efficacy of public opinion based on sound ecological knowledge.

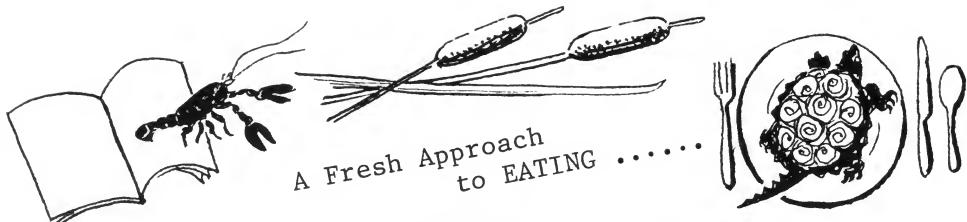
"....Not one person in ten thousand or a hundred thousand will ever clap eyes on a wild wolf. But they will take vigorous action in defence of the wolf's right to be there...out there, somewhere. The wolf is the very symbol of wilderness Canada, and I think we all take some degree of pride in the Canadian wilderness - even those of us who have never really seen it.

This extraordinary Legislative Committee to which I've referred combines in its title "natural resources" and "tourism". In one sense they are strangely inappropriate bedfellows, but in another sense they are the best match ever made. To me, the word "tourism" usually conjures up visions - and smells - of outboard motorboats befouling our lakes and rivers, smoking and stinking and shrieking their way into our pristine wilderness. (In other years - and this I do predict - we're going to have the same offensiveness from snow scooters.) But the paradoxical thing is that tourists who use these conveyances like to use them in natural surroundings. They like to penetrate the wilderness - by technological means. They don't mean any harm ... they simply haven't been taught or encouraged to think.

Wilderness - or semi-wilderness - is probably the most attractive thing our country has to offer the tourist. I really believe that if wolves - even only their voices - were more available, Ontario would have a world tourist attraction that would be absolutely unique. And it could be done. So, natural resources and tourism are not unrelated. As a matter of fact, through agencies such as the wolf, the two could be much more inter-dependent, to the very substantial benefit of both.

"Happily, the wolf still exists in some numbers. And the temper of the time being what it is, as opposed to what it was only a very few years ago, I see no reason to fear that we will lose the wolf from the wilderness scene."

{ We warmly recommend to thoughtful readers that they find a copy of THE ONTARIO NATURALIST, June 1967, and read the entire text of John A. Livingston's stimulating article. }



A Fresh Approach
to EATING

Readers enjoyed "MILKWEED" in our summer issue, and a few even ventured to eat parts of the plant, following Mrs. Moore's suggestions for preparation. (These readers are still around, as far as we know.) Milkweed, it seems, is only one of many wild plants and animals which have interesting culinary possibilities. Would your family like to start the day with Cattail Pollen Pancakes, perhaps served with Birch Syrup in place of traditional Maple? These delicacies have come to our notice in HARVEST WITHOUT PLANTING, Eating and Nibbling Off The Land, by Erika E. Gaertner.

To continue the offbeat menu, lunch or dinner might include Braised Muskrat in Tomato Sauce, and Boiled Evening Primrose Roots. What guest could fail to comment when you serve Sorrel Soup, Beaver Tail, or Bugleweed Pickles? Denizens of stream or lake, disdained by fishermen, become Barbecued Catfish or delicious Crayfish Bisque. Liquid refreshment is offered here, in Sweet Gale Beer and Wintergreen Liqueur.

Recipes for using wild plants, fungi, unusual animals and non-game (but unprotected by law) birds, have been tried and accepted by the author's family. Dr. Gaertner also discusses briefly some plants that can provide emergency food and others that "can make our rambling through the woods more pleasant with the odd nibble." Her book has practical instructions for gathering ingredients ("Do not lose heart when you look at the cumbersome monster.." - raw material for Snapping Turtle Soup) and preparing them ("..hand him (husband) the hatchet, a chisel and a hammer before you make your hasty retreat.." same recipe). A list of references and an index are included.

Interested readers can obtain a copy locally from Snow Goose Handicrafts for \$2.50, but we're not at all certain we're doing the right thing in recommending it. The editor of a publication devoted to conservation etc. is haunted by a vision of T & L readers, en masse, nibbling and munching their way through our woods!

LICHENS OF THE OTTAWA AREA. II. The Fruticose Species

Irwin M. Brodo, Curator of Lichens
National Museum of Canada, Ottawa.

In the first part of this series on the lichens of the Ottawa region (T. & L., vol. 1, part 2), I introduced the lichen as an organism, and tried to acquaint the reader with a few elements of lichenological jargon. I won't attempt to repeat that information here, but because the introductory remarks may be helpful in this discussion, I would suggest having them handy.

The fruticose lichens are the largest and most conspicuous of all lichen forms. They include such "famous" types as "reindeer moss", "British soldiers" and "old man's beard". Most species of this group belong to the genus Cladonia, and there is a good chance that if you only can recognize one or two kinds of lichens, they are Cladonias.

Unfortunately, species of Cladonia and other fruticose genera are often extremely variable. This makes them hard to identify with certainty without comparing them with well identified specimens. My only suggestion in this regard is to try to work with as large and as "healthy" a specimen as you can (forget about scraps with one or two stalks). And have patience. The more you use the key, the easier it will become.

There is one new chemical test you should know about. There are a number of lichen acids which turn vivid red-orange or brilliant yellow when exposed to para-phenylenediamine solution (PD, for short). The chemical used to be used extensively in photographic developing, but is rarely used today. The result is that it is hard to come by. However, you can order it from Fisher Scientific Co. in Ottawa (Fisher Cat. no. P-96) at \$2.97 for 100 gms (enough for 25 years or so).

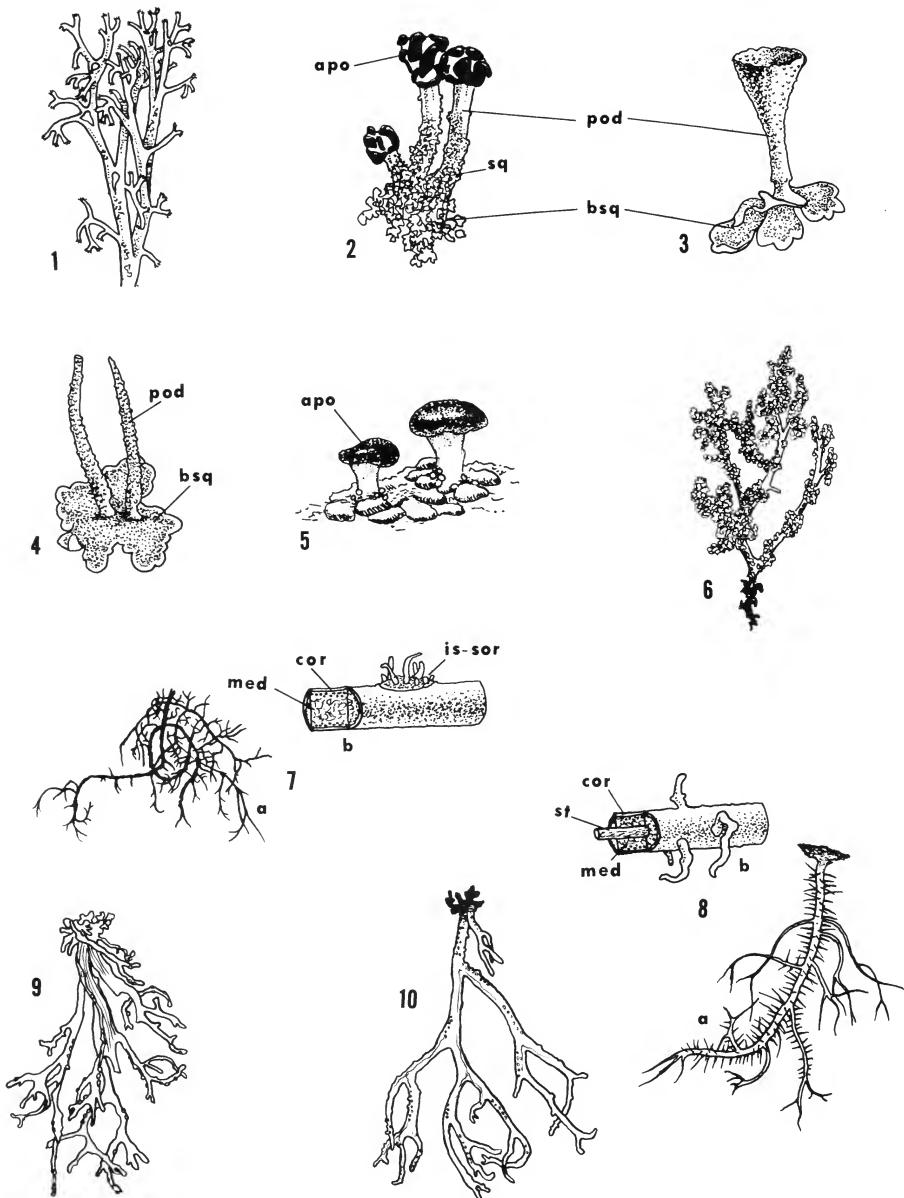
To make a PD test, dissolve a few crystals of PD in 2 or 3 drops of alcohol (70%). A tiny dish or vial is a good container. Then, using a thin brush (3 or 4 bristles) or a very slender pipette or dropper, wet the surface of the lichen to be tested with the PD solution. The color will develop within a few seconds.

Prepare only a few drops of PD solution at a time because it decomposes very quickly, within a few minutes. Old, dark PD will not work, and neither will the redissolved residue of old solutions which have evaporated. After the test, discard the tested piece of lichen. This is important, because PD irreparably stains paper, desks, ties, shirts, etc. and will become a nuisance if handled carelessly. It is also a deadly poison, so keep it out of the reach of children.

Because of its household dangers (very slight if handled sensibly) and relative inaccessibility, I have constructed the key without using PD reactions as prime characters although all important PD reactions are mentioned. You will see, as you go along, that having PD is a big help in pinning down difficult choices.

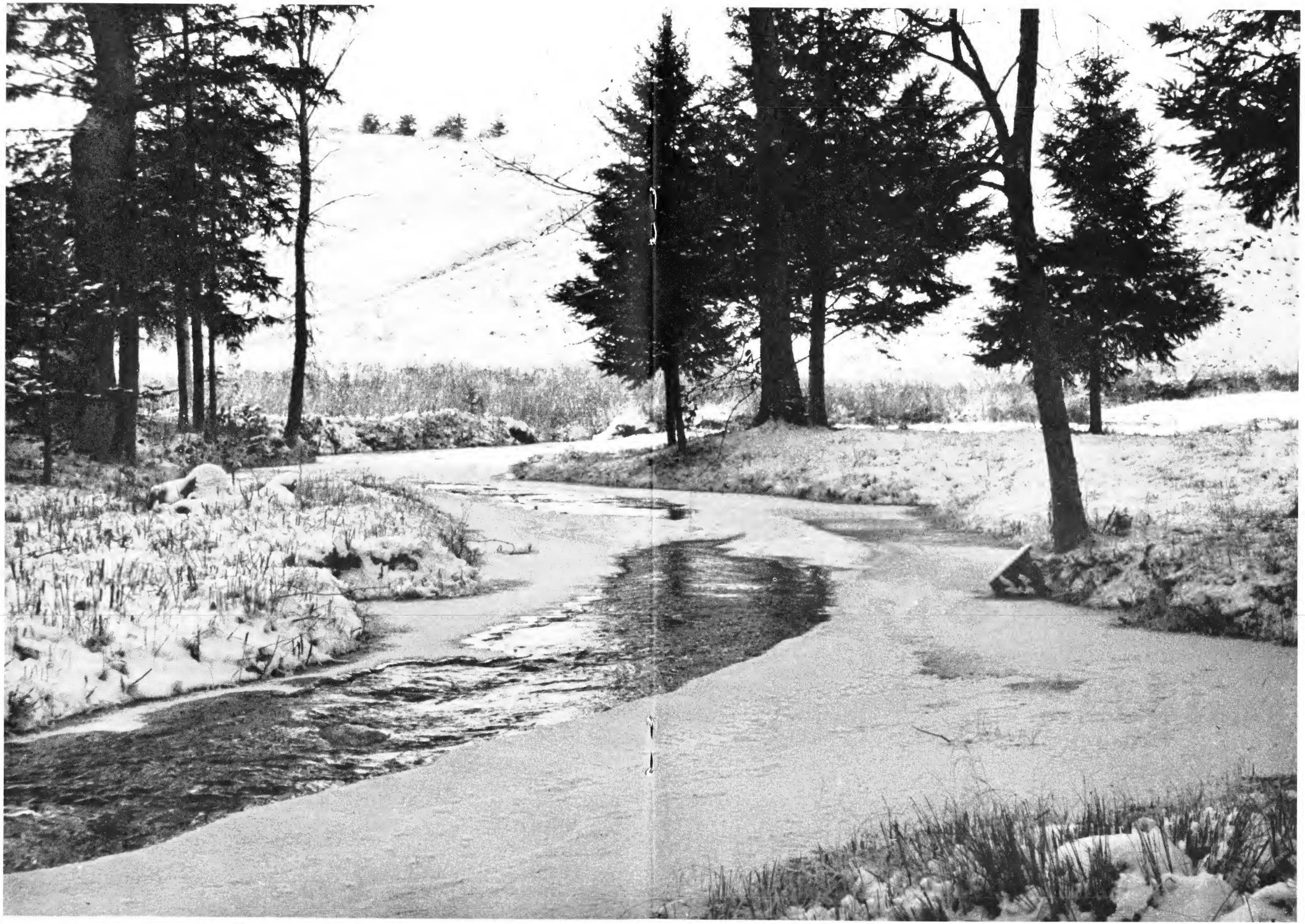
As before, the technical terms are underlined and explained or defined the first time they are used. Many structures are illustrated in the figures. Look over the figures carefully before attempting the key.

[Author's note: In part I of this series, an error was made on page 45, in couplet 36. Cetraria "crispa" should read "Cetraria ciliaris". The beautiful, yellow, foliose lichen, Cetraria pinastri (bright yellow, KOH-, with powdery soredia on the lobe margins) was not mentioned in the key to foliose lichens, but is common on conifers in the Mer Bleu.]



Figures 1-10, fruticose lichens. 1. Cladonia mitis, 2. C. cristatella,
3. C. chlorophaea, 4. C. coniocraea, 5. Baeomyces rufus, 6. Stereocaulon
saxatile, 7. a) Alecroria nidulifera, b) section through a filament, 8. a) Usnea
comosa, b) section through a filament, 9. Ramalina intermedia, 10. Evernia
mesomorpha.

apo, apothecium; bsq, basal squamule; cor, cortex; is-sor, isidiate patch
of soredia; med, medulla; pod, podetium; sq, squamule; st, central
cartilaginous strand.



December, Gatineau Park

Photo by G. C. Bayly

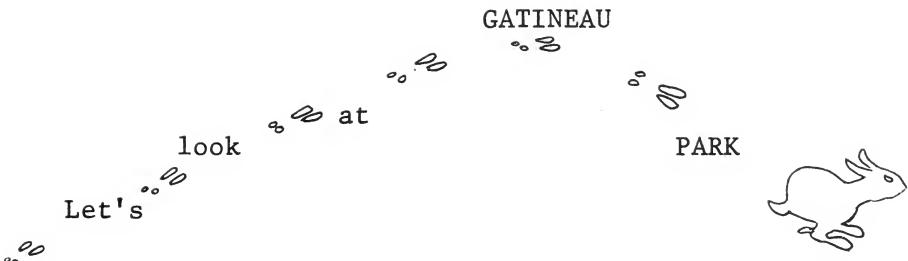
Key to fruticose lichens of the Ottawa area

1. Stalks or branches clearly hollow (= Cladonia) 2
1. Stalks or branches solid, but the medulla is sometimes loose and cottony 36
 2. Stalks (podetia) highly branched, forming shrub-like cushions or clumps (see fig. 1) 3
 2. Podetia not at all, or at most, once or twice branched, never "shubby" in appearance (see figs. 2-4) 7
 3. Podetia having few to many tiny leaf-like scales (squamules), particularly close to the base. Rare; usually on shaded ground (where it is dark grey-green) but occasionally exposed (where it is brownish-green); PD + red C. furcata
 3. Podetia having no squamules at all 4
 4. Plant is silver- or blue-grey in colour, with the extreme tips of the branches usually browned and drooping + in one direction; surface KOH + yellow, PD + red. Common in the Gatineau on exposed bluffs on soil, among mosses, or over rock. C. rangiferina (true reindeer moss)
 4. Plant is distinctly yellowish-green or green-grey, (never silvery-grey); surface KOH - , PD - 5
 5. Plant growing into tightly branched rounded tufts 1-2 inches across, with the tip of each branch ending in a star-shaped whorl of 4 or 5 tiny branches around a central hole. Not common; in exposed situations on the ground C. alpestris
 5. Plant not growing into rounded tufts 6
 6. Surface of podetia smooth and shiny, very yellowish; tips divergent and erect, sharp pointed. Common, on exposed soil or over rock C. uncialis
 6. Surface of podetia uniformly dull, usually greenish-grey or slightly yellowish; tips divergent but bent and often drooping. Common, over ground or in moss mats, usually exposed (fig. 1) C. mitis
 7. Podetia ending in bright red fruiting bodies (apothecia) 8
 7. Podetia either with brown apothecia, or lacking apothecia altogether. 13
 8. Podetia not covered with powdery or mealy granules (soredia) of any kind. Very variable: the podetia can be unbranched or slightly branched, covered with scales (squamules) or without squamules, yellowish or perfectly grey. Very common on soil, logs, tree bases, etc. (fig. 2) C. cristatella (British soldiers)
 8. Podetia covered with soredia 9
 9. Podetia ending in distinct cups, with the red apothecia located at the cup margins; KOH - 10
 9. Podetia without cups, ending in blunt or sharp points 12

10. Podetia KOH + bright yellow, PD + orange. Uncommon; on soil or wood (see couplet 14) C. digitata
10. Podetia KOH - , PD - 11
11. Cups often elongate, somewhat split longitudinally; soredia powdery, very fine. Uncommon; on ground and logs C. deformis
11. Cups goblet-shaped, not split; soredia coarse, mealy. Rare in Ottawa region; on ground C. pleurota
12. Podetia KOH + deep yellow, PD + orange; usually stout and robust. Uncommon; on soil and logs C. macilenta
12. Podetia KOH - , PD - ; usually slender. Very common; on ground, logs, tree bases. C. bacillaris (pin lichen)
13. Podetia with distinct cups or flat, saucer-like tiers 14
13. Podetia without cups of any kind; either ending in points or fruiting bodies 30
14. Podetia KOH + bright yellow; covered with fine powdery soredia; cup margins often inrolled and sometimes split. Uncommon; on logs or soil C. digitata
14. Podetia KOH - or + dingy brown, sorediate or not sorediate 15
15. Podetia distinctly yellowish (usually pale yellowish-green); sorediate; PD - 16
15. Podetia without a yellowish tint; PD - or PD + red 17
16. Soredia coarse, granular or mealy; cups goblet-shaped, not split. Rare in Ottawa area C. pleurota
16. Soredia fine, powdery; cups often elongate, somewhat split longitudinally. Uncommon C. deformis
17. Cups perforate or opening into podetia through gaping hole 18
17. Cups entirely closed, not perforate 22
18. Podetia covered with powdery soredia, without squamules. Very pale, almost white, with margins of cups somewhat inrolled; KOH - , PD - . On ground and logs, not uncommon C. cenotea
18. Podetia not sorediate at all 19
19. Podetia more or less covered with small, finely divided squamules (less than 1/16 inch [2 mm] long). Common; usually in shaded habitats, on logs or on mossy soil; PD - C. squamosa
19. Podetia without squamules or having scattered squamules which are often lobed, but are not finely divided; PD + red 20
20. Basal squamules very large and ascending, often more than 1/4 inch (6 mm) long; podetia dark green, with very irregular cups which are often longitudinally split. Rare; on soil. C. turgida
20. Basal squamules small, rarely more than 1/8 inch (3 mm) long 21
21. Podetia usually with easily distinguished cups which are perforated; outer surface (cortex) of older portions of the podetia is smooth and uniformly darkened. Rare; on soil. C. multiformis
21. Podetia with irregular cups, often with squamules at the margins, with irregular perforations and lacerations; cortex of old portions of the podetia becomes broken up into small white patches showing up on a black background. Uncommon; on soil C. phyllophora (= C. degenerans)

22.	Podetia sorediate	23
22.	Podetia not sorediate; PD + red	27
23.	Cups very narrow or abruptly expanding at the tip of a slender podetium, shallow, sometimes disappearing altogether and leaving a pointed podetium.	24
23.	Cups narrow or broad, + deep, usually gradually expanding from podetium; podetia never pointed	25
24.	Soredia very fine, abundant; podetia stocky, rarely slender, originating from the centers of large, usually unlobed basal squamules; cup margins not proliferating; PD + red. Very common; on wood, tree bases and sometimes soil (fig. 4)	<u>C. coniocraea</u> (powder horn lichen)
24.	Soredia granular, dispersed; podetia very slender, with lobed or finely divided basal squamules; cups often developing marginal proliferations and giving a "star-like" appearance; PD + red or PD -. Common, especially on exposed soil	<u>C. nemoxyna</u>
25.	Soredia fine, powdery; PD + red.	26
25.	Soredia coarse, granular, covering podetia; cups broad, deep; PD - , or PD + red. Very common; on soil, logs, tree bases (fig. 3)	<u>C. chlorophaea</u> (mealy pyxie-cup lichen)
26.	Podetia entirely covered with soredia; cups narrow, "trumpet-shaped". Common; on soil, logs, tree bases	<u>C. fimbriata</u>
26.	Podetia only sorediate on upper 1/3; cups broad, deep. Uncommon; on soil or logs	<u>C. conista</u>
27.	Cups very irregular, distorted; podetia often split, commonly covered with squamules (see couplet 19). Uncommon, on soil.	<u>C. phyllophora</u>
27.	Cups distinct; regular; podetia with few or no squamules	28
28.	Cups deep, containing small scale-like areoles; podetia with the outer surface (<u>cortex</u>) largely fallen away (<u>decorticate</u>) leaving scattered green areas on a blackened surface; basal squamules thick, unlobed, convex. Common, on bare soil or over rock.	<u>C. pyxidata</u> (true pyxie-cup lichen)
28.	Cups very shallow to flat, usually proliferating from the cup margins or from the center of the cup; outer surface of podetia largely intact and smooth	29
29.	Proliferating from the center of the cup, sometimes forming several tiers. Common, on exposed soil	<u>C. verticillata</u> (ladder lichen)
29.	Proliferating from the cup margins; occasionally forming more than one tier. Common, on exposed soil or moss patches.	<u>C. gracilis</u>
30.	Podetia without soredia or granules.	31
30.	Podetia more or less covered with soredia or granules	32
31.	Basal squamules very large and ascending, often more than 1/4 inch (6 mm) long; podetia dark green, irregular, and often longitudinally split, surface smooth and uniform, usually without apothecia. Rare; on exposed soil	<u>C. turgida</u>
31.	Basal squamules small, not more than 1/8 inch (3 mm) long; podetia grey green, warty, without squamules, often split or "lacerate" longitudinally, terminating in one or more large brown apothecia. Common; on exposed soil	<u>C. cariosa</u>
32.	Podetia KOH + bright yellow; PD + orange	33
32.	Podetia KOH - or + dull brownish-yellow; PD - or PD + red	34

33. Podetia and the edges of the basal squamules covered with coarse granules; podetia always tipped with large brown apothecia. Rare, on logs or soil C. parasitica
33. Podetia covered with fine, powdery soredia, without apothecia. Uncommon, on logs or soil C. macilenta
34. Soredia fine, powdery. 35
34. Soredia coarse, granular; podetia slender, PD + red or PD -. Common, on exposed soil C. nemoxyna
35. Podetia very slender, almost white with fine, powdery soredia; podetia sometimes somewhat thicker at tip (i.e. "club-shaped"); basal squamules small, lobed or finely divided; PD -. Very common; on logs, soil, or tree bases C. bacillaris
35. Podetia stocky, usually dark olive green to slightly yellowish-green or grey-green (never white), tapering evenly to a point; basal squamules large, normally unlobed and undivided, with podetia arising from center; PD + red. Very common on soil or soil over rock, logs, and tree bases (fig. 4) C. coniocraea
36. Branches or stalks growing vertically upwards, often from a granular or powdery basal crust 37
36. Branches or stalks growing outwards from a vertical surface, or hanging downwards, never originating from a basal crust of any kind 38
37. Stalks very short (never more than 1/2 inch high), unbranched, naked, growing from a greenish white powdery basal crust, terminated by a light brown fruiting body (apothecium); KOH + yellow, PD + orange. Rare; on shaded rock or soil (fig. 5) Baeomyces rufus
37. Stalks highly branched, more or less ascending or spreading as a prostrate cushion; stalks over 1 inch tall, have distinguishable upper and lower surfaces, covered with granule-like or scale-like lobes, grey-white; KOH + yellow, PD - (or pale yellow). Common, on exposed rocks and boulders (fig. 6) Stereocaulon saxatile
38. Branches almost perfectly circular in cross section, more or less filamentous 39
38. Branches distinctly flattened or very irregular in cross-section 42
39. Plants yellow-green; filaments with a cartilaginous elastic central strand (fig. 8) (= Usnea [old man's beard]) 40
39. Plants brown to almost black; filaments lacking a central, cartilaginous strand (fig. 7) (= Alectoria [hair or "mane" lichen]) 41
40. Filaments somewhat "dented" and angular especially close to the base; tips of filaments with abundant tiny cylindrical outgrowths (isidia) without soredia of any kind. Uncommon; on trees U. hirta
40. Filaments never dented or angular at all; tips of filaments often with soredia mixed with isidia. Uncommon, on trees (fig. 8) U. comosa
41. Plant shrubby, forming an irregularly branching network about as long as it is broad; surface of filaments with scattered, elliptical patches of soredia usually mixed with tiny but conspicuous prong-like isidia; sorediate patches are PD + red. Common, especially on coniferous trees (fig. 7) A. nidulifera
41. Plants more or less pendent, much longer than broad; branching mainly in "Y-shaped" dichotomies. Soredia and isidia entirely lacking. Medulla PD -. Rare, on trees A. americana
42. Branches angular and uneven, occasionally becoming flattened; plant very soft and pliable; surface of branches dull, coarse, granular soredia scattered over much of the surface. Not uncommon, on trees (fig. 10) Evernia mesomorpha
42. Branches distinctly flattened, quite stiff; surface of branches shiny and smooth (although often ridged); soredia present or absent (= Ramalina) 43
43. Branches quite narrow, generally less than 1/16 of an inch (1.5 mm) across, often becoming long, soredia in conspicuous elliptical patches along the margins of the branches; fruiting bodies rare. Uncommon, on rock walls (fig. 9) R. intermedia
43. Branches broader (up to 1/8 inch (3 mm) or more across); soredia entirely lacking; large, yellow, disk-shaped fruiting bodies (apothecia) common on margins, or close to tips, of branches. Common, on trees R. fastigiata



With the first light blanket of snow in the fall, a walk through Gatineau Park takes on new interest, as now the presence of unseen wild creatures is revealed by their footprints in the snow. Red squirrel tracks, of course, are everywhere, and most winters the tracks of snowshoe hare are fairly common. Because of the hare's manner of leaping, with hind feet landing in front of forefeet, his tracks give the impression of heading the opposite way to their actual direction. It takes some mental effort to persuade yourself that he was travelling "frontwards, hind-feet-foremost", so to speak. While you are contemplating his footprints, the hare is likely to be huddled somewhere in full view, almost invisible against the snow.

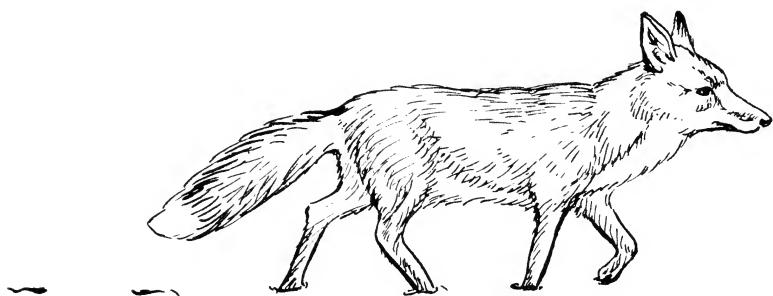
Porcupine trails are common and easily recognized. Being a short-legged animal, he gouges a trough in the snow as he waddles along, toeing in at every step. It is worthwhile following a porcupine trail. The chances are that he has not travelled very far or very fast, and you are likely to find him feeding in the branches of a nearby tree. If your presence disturbs him, he will merely climb a bit higher and carry on with his meal.

The raccoons are great night-wanderers, travelling about in families through the woods, although they seem to disappear for a month or two in mid-winter. The raccoon's hind paw leaves a print like a baby's bare foot, while the front paw suggests a little hand. The hand-beside-foot pattern of a

raccoon's walking track is easily recognized. You may follow a raccoon trail to where he disappeared into a den beneath a tree root, but more likely you will tire of the wandering long before the raccoon did.

The great numbers of deer tracks criss-crossing back and forth through the park is astonishing. The unmistakable two-pronged hoofprint seems to be everywhere. Deer like to bed down for the night under hemlocks, leaving a crescent-shaped couch in the snow when they move off in the morning. Until the snow gets deep, deer tracks wander haphazardly in an untidy trail, with no suggestion of pattern to it.

In contrast to the aimless meanderings of deer and raccoon, fox tracks give the impression of an animal who knows where he is going. Single footprints in a tidy line, his purposeful trail cuts straight across lakes and ponds and clearings, often following the natural routes through the country. Sometimes he turns aside to sniff a beaver lodge, or pauses to gaze out over a valley, and then trots on his way again. He may have travelled ten miles or more in the night, and one follows a fox trail for the sake of seeing what he has been up to or where he has gone, but never with hope of sighting the fox himself.



Of very small creatures out on the snow, the deer mouse leaves a dainty little four-footed track. "Cute" is the only word to describe the tiny tail drag. The short-tailed shrew leaves a running trail, scarcely an inch across, which may disappear beneath the snow for a few inches or a few yards. Amusingly, he sometimes makes long tunnels just beneath the surface, probably tunnelling with a comfortable sense of being safely hidden, although in fact he is mounding up the snow as he travels and revealing the exact route of his tunnel. If the work is fresh, he may be coaxed out into view with a handful of seeds placed near the opening.

The track of the least weasel is a most engaging one. He leaves the typical double paw print of his family, one tiny paw slightly in advance of the other. His is a busy trail...little six-inch leaps, full of loops and circles and switchbacks, as he investigates anything and everything along the way. You are much more likely to find the trail of one of the larger weasels with 18-inch leaps and double footprints of fingertip size. The rockpiles and old stone fences of the pioneer settlers are favourite weasel haunts.

Other animals, too, are out on the snow, and you may find tracks of muskrat or mink, or perhaps the attractive pattern of a grouse trail, star-shaped footprints ending with a brush of wingtips where he took to flight.

This is the time of year to try venturing off the beaten trails. It is almost impossible to get lost, since you have only to retrace your own tracks in the snow. The woods are open now, and filled with the pleasant quietness that comes with the first snowfall. Add to this the fascination of animal trails in the snow, and you have one of the most enjoyable times of the year for scouting around in the park.

Sheila Thomson

H E L P .

we're swamped... (hand)

Your editors are bogging down under the weight of tasks (other than editorial) entailed in the production of T & L. We need to enlarge our staff by the addition of a production manager, typists, proof-readers, mailing clerks, etc. The duties:

Production Manager: To take charge in a supervisory capacity, of the typing, proof-reading and mailing of each issue. A Very Important Position.

Typists: Each issue requires three or four evenings to type the plates for T & L on an electric IBM machine. For each issue also, a couple of hours are needed to type address labels on a standard machine.

Proof-readers: Working in conjunction with typists.

Mailing Staff: About one evening an issue required for stapling, addressing and stamping T & L; plus anywhere from a few minutes to an hour each week for updating the mailing list, supplying back copies to new members, handling requests, etc.

Your services are urgently needed!
If you would like to join our staff
please phone one of us and volunteer.

Anne Hanes 749-2400

Sheila Thomson 234-0845

Ted Mosquin 684-4989

Contributors: Last, but not least, T & L depends on the words, drawings and photos of club members and friends. Let us have some of yours. If you would like to contribute but lack a ready subject, just let us know and we'll send you an assignment!

HISTORICAL FLASHBACK

From the Transactions of the
Ottawa Field-Naturalists' Club, Vol. 1-2.1879-86.
Annual Report to the members of the O.F.-N.C. by
R.B. Whyte, Secretary Treasurer, March 16, 1880:

"As many of you were not members of the Club in the early part of the year, it will not be out of place here to give a brief sketch of the principal events connected with its early history. For two or three years back, several young men interested in Natural History discussed the possibility of starting a society in this city devoted to the investigation of the natural history of the vicinity. Nothing was done, however, till last winter, when it was resolved that an effort should be made. Circulars were sent to the members of the Ottawa Literary and Scientific Society, calling a meeting of all those favourable to the formation of such a society. To the great gratification of those interested, fully forty gentlemen attended the meeting held on the 19th March, 1879. After a lengthy discussion as to the form the organization should take, the Ottawa Field-Naturalists' Club was born, and started life with the following list of officers: President, Lt.-Col. White; 1st Vice-President, Prof. W.R. Riddell; Secretary, R.B. Whyte; Committee..."

1967 Members may be interested in the first year's activities of our Club. They included, in addition to two general meetings and twenty council meetings, five summer excursions (to Kingsmere, Calumet, Dominion(Carlsbad?) Springs and Mer Bleue, Britannia and Meech's Lake) and a series of seven "Soirees" at which were read a total of thirteen papers, on subjects ranging over geology, the human brain, freshwater shells, plants, insects, and Spongillae. It is interesting to note that there is no mention anywhere of birds or birdwatchers!

In the same year we read: "The annual membership fee shall be fifty cents, payable in advance, due on the third Tuesday in March; and no member in arrears shall be entitled to any of the privileges of the Club".

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REPRINTS

Because reprints of articles as such are impractical with our type of reproduction, extra copies of separate issues will be supplied to authors at a nominal charge. Requests for these should be made at the time of submission of articles.

COMING EVENTS

Thurs. Nov. 2: Canada's Landscapes on Display. Our National Parks, presented by Alan Helmsley, Chief Naturalist, and Dalton Muir, Interpretative Planner, of the National Parks Branch. An interpretative program, illustrated with magnificent colour slides of each National Park. Interested friends may be invited to attend. National Museum Auditorium, 8:15 p.m.

Fri. Nov. 10: Astronomy for Amateurs. Dan Brunton will give a talk on astronomy and the November skies, followed by an outdoor demonstration with telescope. Room 359, National Museum, at 8 p.m.

Sat. Nov. 25: Migrating Arctic Waterfowl. A field trip to Ottawa River shorelines. Meet at Health & Welfare Bldg., Tunney's Pasture, at 7:30 a.m. Dress warmly. Thermos of hot coffee recommended. Leaders: Monty Brigham (728-0855) and Ron Pittaway (684-5719).

Mon. Dec. 18: Annual Meeting and Election of Officers. National Museum Auditorium, 8 p.m.

Boxing Day, Dec. 26: Christmas Bird Census.

